

Mortarboards, Paychecks, and Crystal Balls:

The Link Between Education and Wisconsin's Labor Force

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Introduction

Two fundamental, yet sometimes divergent forces – education and industry, have shaped the history of the State of Wisconsin. From the development of the first kindergarten in the United States in Watertown in 1855, to the development of the Milwaukee Parental Choice Program to current breakthroughs in genetic mapping at the University of Wisconsin – Madison, Wisconsin has enjoyed a long tradition of innovation and excellence. This tradition has resulted in a high level of student performance, as evidenced by the fact that Wisconsin is consistently ranked as the top state in the country in average composite ACT scores, ranking 1st in 2001.¹ Similarly, the history of Wisconsin is inextricably linked to the growth of a number of world leaders in industries ranging from agricultural and industrial machinery, to brewing and food processing, to papermaking, printing and plastics. The combined effect of education and industry in the state helped to promote the character of the state’s labor force as dedicated, skilled, and hard working.

As the state moves forward into the 21st century, a series of new challenges must be confronted. Demographic projections prepared by the Wisconsin Department of Administration suggest that the state will be faced with a significant labor shortage within the next ten to fifteen years as the number of people turning sixty-five, fueled by the aging of the “Baby Boomer” generation surpasses the number of people turning eighteen due to low birth rates and slowing migration patterns. Consequently, the number of workers entering the labor force will not be sufficient to replace those ending their working careers. This phenomenon is illustrated in Figure 1, which shows the number of those 18 years and 65 years of age from 1990-2025.

¹ American College Testing, Inc. <http://www.act.org>.

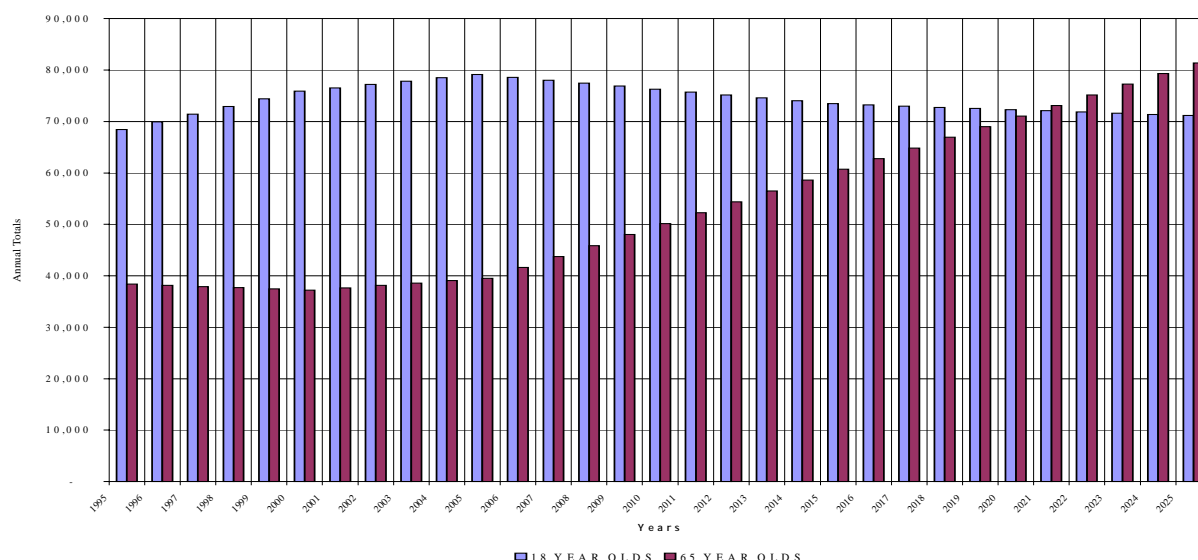


Figure 1: Annual Totals of 18 and 65-Year Olds

Another phenomenon occurring within the state's youth further compounds the effects of this pending disparity. Wisconsin has prided itself on the fact that a majority of high school graduates (69.0% in 2000-2001 compared to a national estimate of 60%)² choose to pursue some form of postsecondary education following graduation. This high degree of in-state enrollment, supported by a strong commitment by the state government to the state's technical college and university systems, has enhanced the performance and reputation of both the students and institutions.

However, most of the data indicates that the state lags behind the nation and among its peers in its ability to retain those students following completion of their degree programs. In a study conducted by the Indiana Fiscal Policy Institute, Wisconsin ranked below the national average and ranked only ahead of Indiana in the percentage of students that continue to reside in the state following graduation³. The results of this analysis are presented below.

² Wisconsin Department of Public Instruction.

³ Indiana's Human Capital Retention Project. Graduate Migration from Indiana's Postsecondary Institutions. Bloomington, IN. Indiana Fiscal Policy Institute. March, 1999.

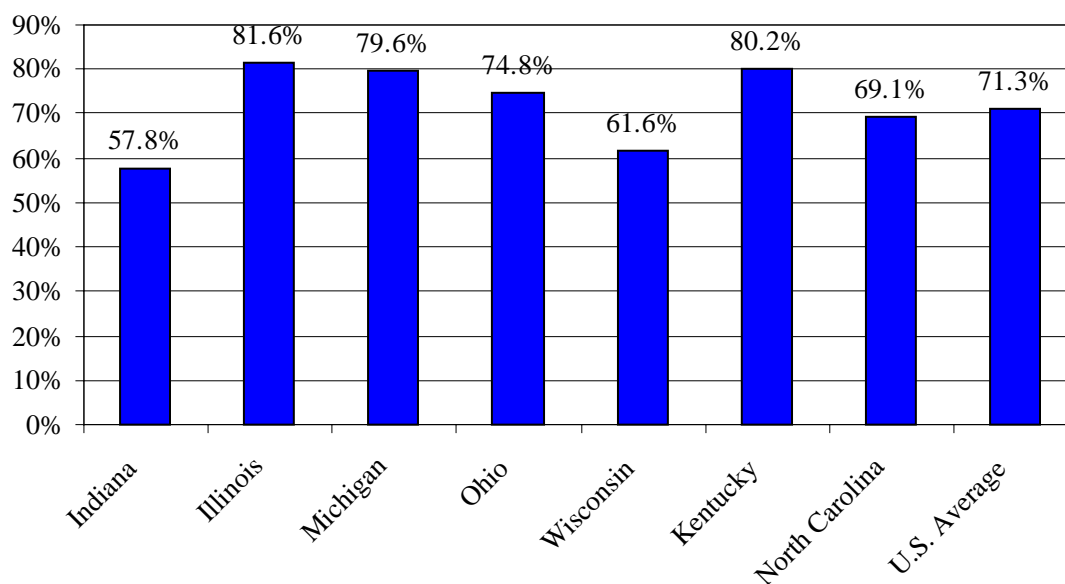


Figure 2: State Retention of College Graduates

The causes for this pattern of college graduate out-migration, commonly referred to as the “Brain Drain”, are numerous and many are beyond the scope of this analysis. However, possible explanations for this phenomenon lie in distinct areas: the demographic composition of the state, enrollment patterns in the state’s colleges and universities, growth and composition of the state’s industry base and the distribution of occupations within it, and the connection of professional/technical jobs to those who are educated and living in large metropolitan areas. In this introductory analysis, we shall explore these areas in an attempt to identify effects contributing to the “Brain Drain”. Please note that it is not our intent to propose solutions to this issue. This is sure to be the focus of a coordinated effort of state government, education, and business leaders through the Build Wisconsin initiative and the proposed student retention office within the Wisconsin Department of Workforce Development.

Section I: Census and Educational Attainment Analysis

Overview and Sources

This section is a brief discussion of census and institutional data that outline educational attainment in Wisconsin and eight chosen states for comparison: Colorado, Iowa, Illinois, Indiana, Michigan, Minnesota, Nebraska and Ohio. Comparison states were chosen due to proximity and to benchmark against leading states. We will refer to these comparison states as “peer states”. The majority of data in this section are from the U.S. Bureau of Census, years 1990 and 2000. Educational attainment levels and rankings of all 50 states and Washington D.C. are included in the appendices. The term "educated" will be used in this section to identify those within a population who have attained a bachelor's or higher degree. All educational attainment figures in this analysis are indicated for the adult population aged 25 years and older. Though many under the age of 25 are educated, they have been excluded from this analysis, as it has been decided that the 25 and over demographic is better suited for intercensal analysis. The census data provided in this paper precede the fall 2002 release of census summary file-3, which is a more comprehensive data set.

Population Change 1990-2000

Population dynamics over a period of time--growth, loss or stagnation are vital indicators to a state's economic vitality. Has the growth come naturally or have more people migrated into the state? Has Wisconsin been attractive to people and business from other states? If so, whom are we attracting? Are people more apt to live in or move to metropolitan or non-metropolitan areas? Are they educated? What level of education is prevailing? States are equating educational status with its potential earning power, which is then translated as economic vitality.

According to the 2000 U.S. Census, Wisconsin's population grew 9.6 percent from 1990 to 2000. This rate of growth was slower than the national average growth of 13.2 percent and lagged behind the rate of only two of the other peer-states, Colorado (30.6 percent) and Minnesota (12.4 percent). Wisconsin's growth ranked 29th of the 50 states and Washington D.C. Nationally, the peer-states ranked from third (Colorado) to 44th (Ohio) in population growth. Equal parts natural increase (number of births exceeding the number of deaths) and net in-migration, both domestic and international, fueled population growth in Wisconsin. Colorado's tremendous population growth was almost exclusively propelled by in-migration as nearly 70 percent of new residents, annually, have moved there over the last decade, whereas Minnesota, Indiana, Iowa and Nebraska have shown a majority of their growth via natural increase. Illinois, Michigan and Ohio's population growth came exclusively from natural increase as each state showed a migratory net loss; this in spite of large international in-migration numbers, which could not offset domestic out-migration.

It is not enough to look at the collection of pluses and minuses of states' change dynamics, but to examine and speculate why these dynamics have occurred. It has been trumpeted loudly that states such as Colorado and Minnesota have created a "buzz" or a scene that has coupled enticing occupational opportunities with vibrant social and cultural amenities, especially popular to young, educated professionals, for example, working in the burgeoning technological industries. This buzz, the natural amenities and the thriving economy have directly affected Colorado's educational composition via those migrating inwards. Conversely, Michigan and Ohio, two of the more populous states in the country, are home to eight of 25 fastest declining central cities with a population of 100,000 or greater. The City of Milwaukee is also in this top 25 having lost five percent of its population over the last ten years. Of course, many of these former Milwaukee city-dwellers have maintained residence within the metropolitan area trading urban domiciles for more suburban homesteads, and they have been doing this for decades.

Rural, Midwest states, for the most part, are slowly becoming more metropolitan in population composition and heavily urban states are seeing flight from cities into the suburbs and to adjacent, yet non-metropolitan counties. Iowa and Nebraska, the most rural states within this group, have shown

explosive metropolitan area growth, much higher than their non-metropolitan growth, while states like Wisconsin, Colorado, Michigan and Ohio have seen their non-metropolitan counties grow faster (not larger) than their urban. This change is not unique to the last decade, and the Midwest is not shrinking in population, but most of these peer-states are certainly not gaining residents as fast as many other regions of the country, the exception being Colorado. Questions for further research are: (1) Why are states, cities and metropolitan areas more or less attractive than others? (2) How does one begin to gauge the attractiveness indicators of a particular geography?

All Post-Secondary Education

The educational designations within post-secondary attainment are as follows: (1) some college, no degree; (2) associate degree; (3) bachelor's degree; and (4) graduate or professional degree. A fifth category has been created, (5) bachelor's degree or higher, which is used as the central gauge of a state's educated population. It is important to note that census post-secondary education data do not include those who have participated in vocational or technical training/certificate programs unless the minimum of an associate degree is or will be awarded. Vocational/technical programs have high participation in Wisconsin and the peer-states, especially given the large manufacturing presence throughout the Midwest, an industry that covets the skills learned in these programs. Though enrollment in technical/vocational programs in university and technical college systems are not considered post-secondary attainment by the Census, it is believed that some who hold certificates from these programs may have self-reported this as some level of college education on census questionnaires, but the extent is not known.

The top six states in post-secondary education in descending order are Colorado, Utah, Washington State, Alaska, Minnesota and Oregon. Year 2000 Census data shows that 50.5 percent of the population in Wisconsin possess, have attempted or are attempting some form of post-secondary education. This is slightly below the national average of 51.8 percent and ranks sixth of the nine peer-

states as only Indiana, Iowa and Ohio rank lower. Colorado leads the peer-state group with a post-secondary rate of 63.7 percent and, again, has the highest national ranking. Wisconsin ranks 33rd.

Some College, No Degree

The top six states in this category in descending order are Utah, Alaska, Idaho, Oregon, Nevada, and Wyoming. Wisconsin, at 20.6 percent, ranks seventh of the nine peer-states in the "some college, no degree" category. Nationally, Wisconsin ranks 27th and registers slightly below the U.S. average of 21.0 percent. A related view worth noting from the [2000 Census Supplementary File](#) shows quite a large discrepancy between the genders' national rankings in Wisconsin. In the category "some college, less than one year", Wisconsin females (3.8 percent of females 25 and older) rank 28th and below the national female average of 3.9 percent. The male population (3.4 percent) is ranked 12th and is well above the national male average of 3.1 percent. Typically, one sees a state's genders rank alike within their respective categories on the national scale, but this disparity is quite large. A good contrast to this is the next logical category of this supplementary file, "some college, more than one year". Wisconsin females (7.1 percent) rank 29th and males (6.7 percent) rank 23rd, nationally, much closer in rank and even relatively closer in their values. Female percentages in these categories are larger than male simply because more women have enrolled in college than men have since the early 1980's and are a larger pool from which to draw this observation. Wisconsin males rank higher in not completing college possibly due to the industrial makeup of Wisconsin and the lure of higher than average-paying opportunities that are afforded to males without a college education. These opportunities are usually in industries that are heavily male-skewed in employment such as manufacturing.

To further illustrate these opportunities for males with less than a college degree, males made up roughly 96 percent of graduates in two-year technical programs and 94 percent of the graduates of

industrial programs in the Wisconsin Technical College System in 2001.⁴ It is also estimated by the Department of Workforce Development's Bureau of Apprenticeship Standards that 90 percent of the participants in Wisconsin's apprenticeship programs are male. This is not to say that females do not attend technical schools as they do compose a slight majority of *one-year* technical program graduates. Females also compose a majority of the short-term technical program graduates; most of these certificates were conferred in health care occupational training as nursing assistants. Wisconsin boasts a large technical college system that grants more technical diplomas than associate degrees. Technical college data from 2001 show that 54 percent of the graduates earned certificates rather than associate degrees.⁵

Associate Degree

The top six states in the associate degree category in descending order are North Dakota, New Hampshire, Hawaii, Washington State, Wyoming and Utah. Minnesota, Wisconsin and Iowa rank eighth, ninth and tenth, respectively, on the national scale and five of the nine peer states rank in the top 20 states in this attainment category. Of all educational designations, the associate degreed population makes up the smallest portion of all post-secondary educational categories and has shown the slowest rate of growth since 1990 in every one of the peer-states. The national average of associate degree attainment is 6.3 percent, whereas Wisconsin stands at 7.5 percent. Wisconsin's growth in this category is higher than the national average, despite this category's overall slower growth. This is probably a reflection of the historic presence of manufacturing in the Midwest relative to the rest of the U.S. Moreover, Wisconsin's high ranking in this educational category can be attributed to the state's industrial/occupational makeup and the opportunities that desire this educational level in the services industries as well as manufacturing. Analysis of associate degree attainment in Wisconsin shows that females are more likely than males to have earned this attainment as the most recent data show that females were awarded 61 percent of all

⁴ Wisconsin Technical College System Board, "Demographic Composition of 2000-01 Graduates", June 30, 2002, <http://www.board.tec.wi.us/Publications/Graduate%20Follow-up/Page2Grad.pdf>.

⁵ Ibid

associates degrees.⁶ The majority of the associate degrees conferred to females were in business, health care, marketing and family and consumer education, whereas males were heavily awarded in areas such as protection (fire, police) services, graphics, technical and TV and computer-related.

Bachelors' Degree

The top six states in the bachelor's degree category in descending order are Colorado, Massachusetts, Minnesota, New Jersey, New Hampshire and Washington State. Wisconsin ranks 29th in this category at 15.3 percent, which is just slightly below the national average of 15.5 percent. This is not to be confused with the phrase, *bachelor's degree or higher*, which is used as the measure of a locale's "educated" population; this will be elaborated further in this section. The peer-group states show a great deal of ranking variation in this category. Nationally, Colorado (21.6 percent) and Minnesota (19.1 percent) rank first and third, respectively, in this portion of population, whereas Indiana (12.2 percent) ranks 45th.

Wisconsin's growth rate of population with bachelor's degrees was strong and ranks third of the peer-states' growth behind Colorado (58.0 percent growth) and Indiana (47.9 percent growth). The U.S. rate of growth was 35.9 percent. Wisconsin identified 154,665 more residents with a bachelor's degree (41.2 percent growth) from 1990 to 2000. While the rate of growth over the last decade is encouraging, the state is still relatively low in this educational designation compared to its immediate neighbors, Illinois and Minnesota. This is especially worrisome as it is estimated that many graduates from Wisconsin colleges and universities migrate into these two states for employment, adding to these states' educational attainment figures at the expense of Wisconsin taxpayers. Noteworthy is the fact that six interstate bordering counties: Burnett, Pierce, Polk, St. Croix (bordering Minnesota); Kenosha and Walworth (bordering Illinois), account for approximately 10 percent of Wisconsin's total increase in those

⁶ Wisconsin Technical College System Board, "Demographic Composition of 2000-01 Graduates", June 30, 2002, <http://www.board.tec.wi.us/Publications/Graduate%20Follow-up/Page2Grad.pdf>

with bachelor's degrees, while only composing about seven percent of the state's total with a bachelor's degree. What makes this even more interesting is that these counties send anywhere from 10 to 45 percent of their workforce into the bordering state (a six-county average 28 percent out-state commute).

Graduate or Professional Degree

The top six locations in the graduate or professional degree category in descending order are the District of Columbia, Massachusetts, Maryland, Connecticut, New York and Virginia. Wisconsin ranks 36th nationally in graduate or professional degree attainment at 7.2 percent. The only peer-state ranked lower in graduate or professional degree attainment is Iowa at 6.5 percent. Iowa is ranked 44th, nationally. Colorado has the highest rank of the peer grouping and is seventh in the nation, followed by Illinois at 13th. Five of the peer-states rank from 23rd to 33rd. Wisconsin, like the majority of the peer-states, is lower in graduate or professional representation than the U.S. average and this category represents Wisconsin's lowest national ranking. Wisconsin's growth in this attainment was better than the national average growth (this was the fastest growing category in Wisconsin), but it still remains low in representation relative to the U.S. and all but one of the peer states.

This is an essential educational category, vis-à-vis, educated population and the brain drain discussion. Nationally, those with graduate or professional degrees average a significant 8.9 percent of the total 25 and older population and compose approximately 36 percent of the nation's total educated population; those with a bachelor's degree make up the remainder. According the U.S. Department of Commerce, Wisconsin ranks 45th nationally in the number of those in the civilian workforce with a recent master's degree in science or engineering.⁷ This example typifies the graduate/professional census data, that is, the fact that Wisconsin's total educated population is less weighted to those with graduate or professional education and is heavier in those with bachelor's degree terminus. Why is this important?

⁷ U.S. Department of Commerce, Office of Technology Policy, The Dynamics of Technology-based Economic Development, October 2001.

Companies and industries seek those who are highly educated, more highly skilled, more innovative and creative, to foster new ideas that stimulate growth. Occupations that require this advanced learning also typically pay higher salaries.

Bachelor's Degree or Higher

Wisconsin and most of the Midwest states are not retaining and/or attracting those who are educated at the same rate and magnitude as other states such as Colorado and other states. This category serves as the barometer for how "educated" a population is. It is a combination of the two previous categories' percentages. The top six locations for educated population in descending order are the District of Columbia, Massachusetts, Colorado, Maryland, Connecticut and New Jersey.

| | Bachelor's degree or higher- 1990 | Bachelor's degree or higher- 2000 | % Diff. 1990 to 2000 | National Rank- 2000 |
|-----------|--------------------------------------|--------------------------------------|-------------------------|------------------------|
| Colorado | 27.0% | 32.7% | 59.7% | 3 rd |
| Minnesota | 21.8% | 27.4% | 43.6% | 11 th |
| Illinois | 21.0% | 26.1% | 35.4% | 16 th |
| U.S. | 20.3% | 24.4% | 37.6% | -- |
| Nebraska | 18.9% | 23.7% | 36.8% | 24 th |
| Wisconsin | 17.7% | 22.4% | 42.0% | 30 th |
| Michigan | 17.4% | 21.8% | 37.7% | 35 th |
| Iowa | 16.9% | 21.2% | 34.3% | 39 th |
| Ohio | 17.0% | 21.1% | 33.0% | 40 th |
| Indiana | 15.6% | 19.4% | 39.2% | 44 th |

% of population 25 years and older

Figure 3: Peer States Bachelor's Degree or Higher from 1990 to 2000

Wisconsin ranks 30th in the United States in this attainment level at 22.4 percent and ranks fifth of the peer-states. Wisconsin was previously ranked 36th in 1990 and sixth within the peer state grouping. The only other state to show a larger national ranking jump is North Carolina, which jumped nine places to 29th. Every peer-state, with the exception of Ohio, moved up in national ranking over the decade.

The number of educated Wisconsin residents has increased 42 percent over the last decade, which is higher than the nation's growth of 37.6 percent. Wisconsin displayed the third highest rate of peer-state

growth behind Colorado (59.7 percent) and Minnesota (43.6 percent) and five of the nine peer-states have shown faster rates of growth than the national average. The faster than national rate of growth of educated population is encouraging, but the magnitude of growth in other states, and very importantly, the assumed manner of how they are attracting and retaining educated via cultural amenities and economic opportunities may mitigate Wisconsin's growth. Wisconsin continues to have a population and, consequently, a labor force that is still proportionately less educated than the national average.

Section II: Postsecondary Enrollment Analysis

Where to attend school is one of the primary decisions youth contemplate after deciding to further their post-high school education. Based on an analysis of 1,005 students participating in the National Longitudinal Survey of Youth, researchers at the Federal Reserve Bank of Boston discovered that students from the East North Central census region, which includes Wisconsin, were roughly 67% more likely to migrate between the completion of high school and college enrollment, than between birth and the completion of high school, compared to students living in other census regions.⁸ Further, the study also indicated that students in the sample were likely to migrate (34%) to another area of the country within five years after completing their college education. The same study validated this likelihood analysis by reporting a net loss of 15.9% of respondents in the North Central region following high school graduation between 1979-1991, and a net loss of 5.9% of respondents who attended a college or university within the region over the same time period.⁹

Methodology

In performing this analysis, a sampling of data from all two and four-year institutions within the nine-state study area was reviewed as reported in the National Center for Education Statistics Integrated Postsecondary Education Data System (IPEDS). Due to the large number of sub-baccalaureate institutions, the sample of two-year institutions was limited to technical and community colleges that offer at least an associate degree. Data were collected to analyze both the patterns of migration in the enrollment of first time, first-year students, as well as the racial composition of these classes. Due to survey methods, data were only available for the period of 1992 to 2000 in two-year increments. The number of four-year and two-year institutions included in the sample by state is as follows:

⁸ Krodrzycki, Yolanda K. "Migration of Recent College Graduates: Evidence from the National Longitudinal Survey of Youth." New England Economic Review. Federal Reserve Bank of Boston. Boston, MA. January/February, 2001.

⁹ Ibid.

| Number of Institutions Included in Study Group | | |
|--|------------------------|-----------------------|
| State | Four Year Institutions | Two Year Institutions |
| Colorado | 20 | 20 |
| Illinois | 89 | 51 |
| Indiana | 48 | 24 |
| Iowa | 40 | 16 |
| Michigan | 50 | 35 |
| Minnesota | 38 | 41 |
| Nebraska | 22 | 8 |
| Ohio | 81 | 84 |
| Wisconsin | 35 | 18 |
| <i>Total</i> | 415 | 297 |

Figure 4: Number of Peer States Education Institutions Studied

The number of institutions, both in the four-year and two-year categories varies greatly. This can be accounted for based on the total population of the states represented in the study group. It follows that larger states will have more colleges and universities within their borders than would smaller states. As the number of institutions directly impacts the enrollment levels within the states, the following results are reported, by and large in percentage format.

Results - In-State Retention: 1992-2000

One of the most important questions that must be examined when considering the issue of retention of college graduates as it relates to postsecondary enrollment is where students initially decide to attend school. Closely related to this is the state's relative level of success in retaining college-bound high school graduates. Based on the analysis of IPEDS data, the following are the in-state enrollment rates for both four-year and two-year institutions in the study group:

| In-State Enrollment Rates of Four-Year Institutions in Study Group | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|
| State | 1992 | 1994 | 1996 | 1998 | 2000 |
| Colorado | 67.2% | 64.6% | 64.4% | 68.5% | 67.1% |
| Illinois | 89.2% | 89.9% | 87.8% | 87.2% | 86.8% |
| Indiana | 74.9% | 73.4% | 68.2% | 72.0% | 72.8% |
| Iowa | 63.6% | 62.6% | 65.2% | 66.1% | 65.4% |
| Michigan | 88.6% | 86.5% | 86.4% | 85.9% | 86.5% |
| Minnesota | 72.7% | 69.9% | 71.5% | 68.3% | 74.2% |
| Nebraska | 79.7% | 76.4% | 75.8% | 76.1% | 76.0% |
| Ohio | 82.1% | 82.5% | 81.0% | 80.1% | 82.1% |
| Wisconsin | 77.6% | 75.6% | 76.3% | 75.5% | 74.7% |

Figure 5: Peer State 4-Year Enrollment Rates

A number of interesting conclusions can be drawn from these results. First, it should be noted that, with the exception of Colorado, Iowa, and Minnesota, in-state enrollment rates in the study group were fairly consistent between 1992 and 2000. A number of states experienced significant declines in in-state enrollment over the course of the time period analyzed, with the most dramatic two-year change occurring in Nebraska between 1992 and 1994. A possible explanation for this is that Nebraska contains the second-lowest number of institutions in the study group, ranking slightly ahead of Colorado. Minnesota is home to many small and much esteemed private colleges that are nationally and internationally renowned, and thus, have very high rates of out-of-state and international enrollment.

Not surprisingly, the most populous states in the sample, Illinois, Michigan, and Ohio also had the highest levels of in-state enrollment. This is most likely related to the relatively high number of institutions in these states, particularly in Illinois and Ohio. The implication that can be drawn from this is twofold. First, in terms of sheer enrollment, a larger number of institutions have a greater capacity to admit larger numbers of students than a smaller number of institutions, regardless of institution size. Second, and perhaps more importantly, a larger number of institutions are more able to offer a diverse offering of academic programs than a smaller number of institutions. The ability to offer “non-traditional” fields of study, such as molecular biology or nuclear physics serves as a drawing point for students both in-state and from other states and countries.

The relatively high in-state enrollment in Wisconsin can partially be justified by the conclusion that diversity of academic programs increases in-state enrollment, particularly given the strength and reputation of the University of Wisconsin System. Additionally, favorable in-state tuition rates, offset by partial state subsidization of in-state residents has led to a relatively high rate of in-state enrollment in the state. One additional caveat must be made when discussing the level of in-state enrollment in Wisconsin, and Minnesota. The presence of a public tuition reciprocity agreement between the two states has led to a great degree of migration between the two states. This is evidenced by the fact that Minnesota students accounted for 9.8% of first-year enrollment in Wisconsin and Wisconsin students accounted for 9.9% of first-year enrollment in Minnesota in 2000. This level was fairly consistent over the study period, indicating that, the presence of the tuition reciprocity agreement provides an incentive for students to attend institutions in Minnesota or Wisconsin versus attending school elsewhere.

A similar pattern emerged in the analysis of enrollment in two-year institutions, which offer vocational or associates degrees', as presented below:

| In-State Enrollment Rates of Two-Year Institutions in Study Group | | | | | |
|--|--------------|--------------|--------------|--------------|--------------|
| State | 1992 | 1994 | 1996 | 1998 | 2000 |
| Colorado | 85.1% | 83.7% | 84.6% | 79.6% | 91.4% |
| Illinois | 98.1% | 98.1% | 97.3% | 96.7% | 96.8% |
| Indiana | 95.6% | 81.8% | 96.1% | 89.8% | 89.7% |
| Iowa | 92.1% | 92.9% | 90.9% | 90.3% | 90.7% |
| Michigan | 98.4% | 98.6% | 98.1% | 97.9% | 98.0% |
| Minnesota | 92.1% | 85.3% | 89.0% | 46.9% | 93.2% |
| Nebraska | 93.9% | 95.7% | 93.4% | 95.2% | 95.2% |
| Ohio | 94.8% | 92.8% | 93.4% | 97.3% | 96.0% |
| Wisconsin | 93.3% | 97.1% | 96.7% | 86.9% | 96.7% |

Figure 6: Peer States 2-Year Institution In-State Enrollment

One important trend is apparent from these results. In-state enrollment rates are substantially higher in the two-year institutions than in the four-year institutions in a majority of the states over the time period. The justification for this is relatively evident, given that these institutions cater primarily to

training in technical fields and the trades. As a result, a vast number of students attending these institutions do so on a part-time basis while working. Additionally, the age profile of the traditional technical or community college student is somewhat older than that of those enrolling in baccalaureate institutions for this same reason. Therefore, these institutions are more likely to draw students from a local region.

Section III: Industry and Occupational Distribution Analysis

Introduction: Metropolitan vs. Non-metropolitan Population & the Link to Educational Attainment

The national pattern of population migration within the last decade has resulted in metropolitan areas growing more rapidly than non-metropolitan areas and absorbing a larger portion of states' total populations. Census data show that 79 percent United States population lived in an urban area and the remaining 21 percent in rural areas. This is an urban shift since 1990 when 75.2 percent were in urban and 24.8 percent in rural.¹⁰ This is important for a simple reason: those who are educated are more likely to live in urban or suburban areas rather than rural counties and if they do live in rural counties, these counties are likely to be adjacent to metropolitan areas.

As similar as these peer-states are in many respects, there are stark differences in these states' geographic-population compositions. The majority of the peer-states' total population range from a little over 50 percent to approximately 85 percent metropolitan in nature. Wisconsin is approximately 68 percent metropolitan populated, ranking seventh of the peer-states in this category. Iowa (45.3 percent) and Nebraska (52.6 percent) are the only states to rank lower. Colorado, Illinois, Michigan and Ohio register over 80 percent of their population in metropolitan areas as these states are home to immense central cities. Noteworthy is that Minnesota, not the most heavily metropolitan of states geographically, shows its largest metropolitan area, Minneapolis-St. Paul, making up roughly 56 percent of the state's total population. Two Wisconsin counties, Pierce and St. Croix, are designated as part of the Minneapolis-St. Paul metropolitan area, but have been included in Wisconsin's metropolitan figures for this study since they express characteristics of a more urbanized nature, albeit more closely tied to

¹⁰Analysis at the national level within this topic would have gathered data defined as metropolitan and non-metropolitan but these data are not available for year 1990 as they are for 2000. Urban and rural figures are available at the national level for years 1990 and 2000 and are comparable to the metropolitan/non-metropolitan classification for this study's purposes. Analysis at the state and local level is defined by metropolitan and non-metropolitan classification. Metropolitan areas have proven to be dynamic in their boundaries and have had to be re-examined when comparing 2000 data to that of 1990. In many cases, metropolitan areas in 1990 have "annexed" additional counties making the decennial comparison inconsistent. To account for this, the non-metropolitan counties that are now included into the metropolitan areas in 2000, but were not in 1990, have been supplemented into the 1990 figures. The following analysis considers the population aged 25 and over unless specifically noted.

Minnesota. The largest metropolitan area in Wisconsin, Milwaukee-Waukesha, contains approximately 29 percent of the state's population.

How fast a state's metropolitan and non-metropolitan counties have grown is also a worthwhile measure. Four of the nine states studied, Wisconsin, Colorado, Michigan and Ohio, have shown a faster increase in the total non-metropolitan population than metropolitan between 1990 and 2000, defying national trends, which show a net loss of rural population in the last decade.¹¹ The five remaining states showed double-digit growth in their metropolitan populations and single-digit growth in their aggregate of non-metropolitan counties. Wisconsin's metropolitan population grew 9.3 percent, slower than its non-metropolitan growth of 10.4 percent. A great deal of Wisconsin's non-metropolitan growth is attributed to a large migration of residents into counties adjacent to metropolitan areas, which offer proximity to the resources, services and jobs, that metropolitan areas can offer to commuters.

Why is population dispersion important in a study of a state's educational attainment? Educational attainment analysis of metropolitan and non-metropolitan areas of the United States shows a large disparity in attainment with metropolitan counties exhibiting higher levels of attainment. Wisconsin has thirteen metropolitan areas (sharing three of them with Minnesota)-- numerous metropolitan areas for a state population of about 5.4 million. Interestingly, Wisconsin has more metropolitan areas than most of the peer-states and is still only in the neighborhood of 40-50 percent of the population of Illinois and Michigan. Wisconsin's metropolitan areas are widely spread geographically and are not as centralized into one or two areas within its borders like the metropolitan areas of some peer-states. However, they are also not nearly as large as other states' metropolitan areas, and thus, may not offer the amenities, infrastructure, etc., which may be an important factor in attracting both business and the educated workforce to sustain development.

Year 2000 population-distribution estimates show that 77 percent of Wisconsin's educated population lives in metropolitan counties. Illinois registered the highest figure, 91.6 percent of its educated living in metropolitan boundaries and Iowa registered the lowest, 56.1 percent. The national

¹¹Based upon the 2000 metropolitan statistical area designations

average stands at 87 percent with the majority of the metropolitan educated living in suburban areas, outside of the central city area. Further analysis of the 85 metropolitan areas within the peer-states shows a tendency for extremely large metropolitan areas to contain a higher percentage of educated than it represents in those aged 25 and over.¹² There is no direct, linear correlation that shows the larger a metropolitan area is in population, the higher percentage of educated, at least not from this limited sample, though a positive relationship between the two variables clearly exists. It is apparent that massive metropolitan areas clearly dominate a state's total educated population despite the fact that many medium or smaller size metropolitan areas are home to large universities (e.g., Madison, WI) that show extreme educational premiums. Conversely, some moderately large metropolitan areas with dominant industrial/occupational compositions that do not demand or have such high educational attainment such as Youngstown-Warren, OH abound throughout this sample as well.

It is a fact that Wisconsin's non-metropolitan counties' percentage of educated grew slightly faster than the metropolitan counties', but most likely these rural residents work in metropolitan areas adjacent to their household counties or, to a lesser degree, are retired and not working. Michigan was the only other peer-state to show this dynamic of faster non-metropolitan educated growth and, essentially, Michigan is facing the same educational and demographic imperatives as Wisconsin.

The most important implications from this portion of the study are that Wisconsin's metropolitan areas, as numerous as they are, have not been enticing enough to attract droves of educated residents and at the rates of other regions and the nation. This becomes a circular issue because jobs attract and retain the educated, but the jobs will not be created if employers do not see the educated workforce there. Most of the volume growth of educated has been limited to a minimal number of counties in Wisconsin, some of which are proximal to the Twin Cities and Chicago metropolitan areas, where many of these Wisconsin residents work. Further research into upcoming census commuting data will be necessary to find where the educated live and work, as this will raise more questions as to the mobility of the workforce. An example of an issue is that Kenosha County, Wisconsin has shown the fastest, peer-state, metropolitan

¹²Eighty-five metropolitan areas include those shared between states, which have been allocated as separate MSA into the respective peer-state.

area growth rate of educated population (78 percent) over the last decade. Anecdotally, this indicates the in-migration of educated Illinois residents into this bordering county for the better quality of life, while maintaining employment in Illinois. The same can be said of Pierce, Polk and St. Croix Counties bordering Minnesota's Twin Cities. It would be just as important to know what kinds of industries and jobs these commuters are occupying.

Industry Jobs 1980-2000

People generally relocate or remain in an area for work, unless of course one is a retiree. During the 1980s the Great Lakes states watched residents relocate as a recession devoured thousands of jobs. Nearly all of those jobs were from manufacturing employers and the loss marked the last high-water level for goods-producing employment nationwide. In 1980, over 22 percent of the jobs in the nation were with manufacturing employers. That declined to 17 percent in 1990 and dropped to 14 percent in 2000. The reduction in manufacturing jobs was compensated by an increase in jobs from employers in the service-producing industries.¹³ In 1980, slightly less than 20 percent of the jobs nationwide were with service industry employers, one of six industry divisions in the service-producing sector. That increased to 25 percent in 1990 and to nearly 31 percent by 2000.

The distribution of manufacturing workers dropped not only nationwide, but also in the peer-states. Even as the share of manufacturing jobs declined, some states reported an increase in the number of manufacturing jobs. In fact, only Illinois, Michigan, and Ohio had fewer manufacturing jobs in 2000 than they had in 1980, and only Illinois and Ohio lost production jobs in the 1990s. Wisconsin employers added over 57,000 manufacturing jobs from 1990 to 2000, the greatest absolute increase among the peer-states, although Iowa and Nebraska had a greater percent increase.

¹³ Service-producing industry sector includes transportation, communication & utilities; wholesale trade; retail trade; finance, insurance & real estate; services; and government.

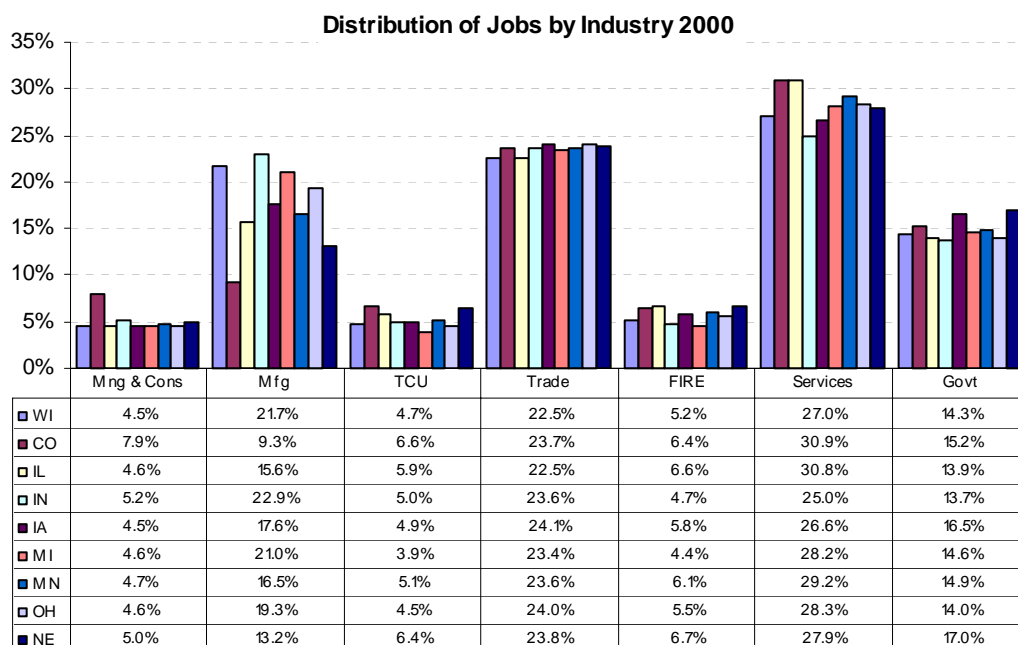


Figure 7: Distribution of Jobs by Industry in 2000

Total job growth in Wisconsin from 1990 to 2000 was 23.6 percent, greater than in Illinois (14.3%), Indiana (19.0%), Iowa (20.5%), Michigan (17.7%), and Ohio (15.2%). The increase was lower than in Colorado (45.5%), Minnesota (25.7%) and Nebraska (26.0%). One of the significant differences between job growth in Wisconsin and the other peer-states was that a larger share of growth was attributed to manufacturing employers. The additional manufacturing jobs in Wisconsin accounted for 10.2 percent of the total jobs added in the state from 1990 to 2000, a larger share than in any of the peer-states except Nebraska. This continued growth in manufacturing employment has made Wisconsin the second highest state in the nation in share of manufacturing jobs in 2000.¹⁴

¹⁴ Source: 1990 – 2000 Covered Employment & Wages for states accessible from the Bureau of Labor Statistics <http://stats.bls.gov/sae/home.htm> (customized tables)

Shift from Manufacturing Jobs to Services Industry Jobs

While Wisconsin employers were adding manufacturing jobs, other states were adding services industry jobs. A significant difference between manufacturing jobs and services industry jobs is the occupations employed in the two industries. Manufacturing occupations are primarily production occupations such as machine setters/repairers, assemblers, and laborers (70%) while less than ten percent are professional and technical occupations. Part of this industrial change was due to the industrial reorganizations referred to as downsizing and/or outsourcing. However, the services industry has the greatest concentration of professional and technical occupations with 37% of its workforce in jobs such as health care technicians and professionals, accounting and business service professionals (especially computer technicians and programmers), and social services professionals. Additionally, roughly eight percent of executive, administrative and managerial jobs are with service industry employers. The share of these jobs is similar in all industry divisions.¹⁵

Even though 37 percent of the jobs in the services industry are professional and technical, over 70 percent of professional and technical workers are employed in a services industry. While not all of those professional and technical jobs typically require a Bachelor's degree or higher, 60 percent of them do, and another 20 percent require vocational training. Furthermore, 70 percent of the jobs that typically require four or more years of education are professional or technical. In 2000, one in five workers in Wisconsin was in a professional and technical occupation and roughly 16 percent of all the jobs in the state typically required a college degree, which is much lower than the national average of 21 percent of all jobs typically requiring a college degree.¹⁶ However, this professional and technical group of occupations is

¹⁵ Industry-occupation matrix for Wisconsin, 2000

¹⁶ "Typically required" is defined by the Bureau of Labor Statistics the education and training needed by most workers to become fully qualified in an occupation.

projected to account for 29 percent of total job growth from 2000 to 2010, nationally, and most of those jobs will be with services industry employers.¹⁷

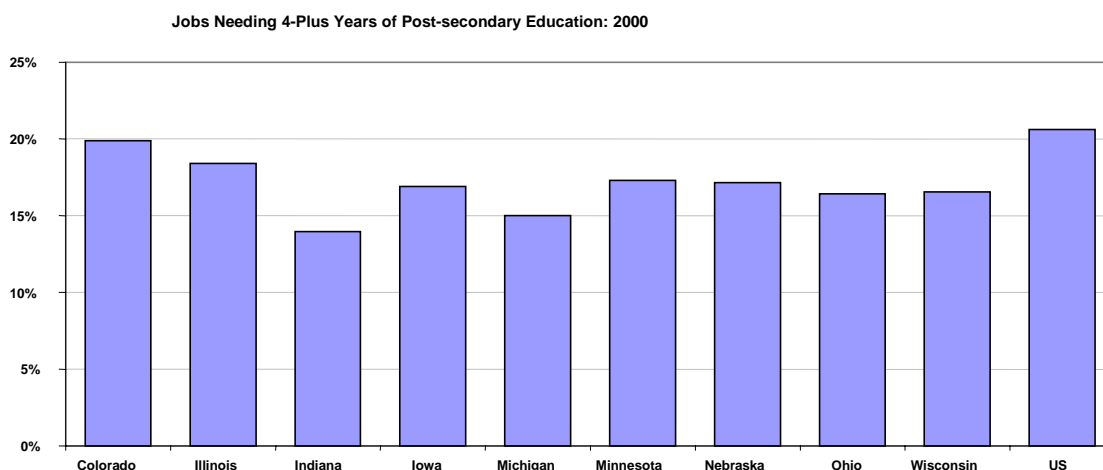


Figure 8: Percentage of Jobs Needing 4-Plus Years of Post-Secondary Education

For all states, including Wisconsin, the greatest increase in jobs occurred in the services industries. In Wisconsin, jobs with services industry employers increased 44 percent with the addition of over 234,000 jobs. Roughly, 43 percent of all jobs created in Wisconsin from 1990-2000 were with services industry employers. This is impressive at first glance, but not so when compared to the nation and the peer-states' services industries growth. Nationally, 56% of all new jobs were from service industry employers and five of the eight other peer-states exceeded Wisconsin in job generation from the services industry.

¹⁷ It would be preferable to track occupational changes in the last decade using employment estimates by occupational group. However, changes in the occupational classification systems in the last decade do not facilitate comparison even at the major group level. Instead, we will focus on industry changes, especially the services industry, where employers hire the majority of professional and technical workers.

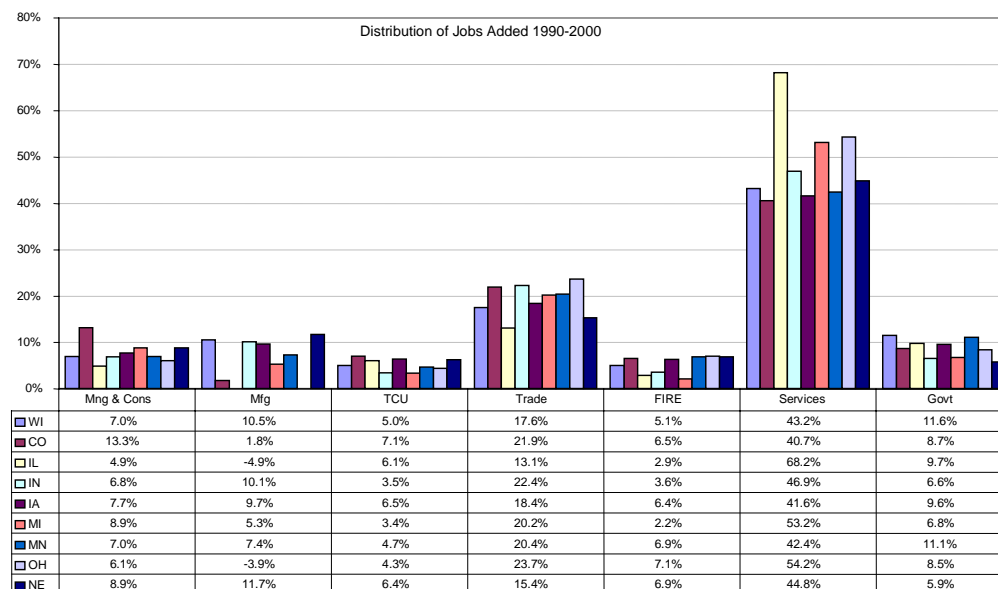


Figure 9: Distribution of Jobs Added 1990-2000

Services Industry and Professional/Technical Jobs

According to an industry-occupation matrix, over 70 percent of all professional and technical jobs are with service industry employers. Within the services industry division are sixteen major groups including five that provide a significant share of professional and technical jobs. Six percent of the professional and technical jobs in the services industry division are in the business services group, 28 percent in health services, 43 percent in education services (including both private and public), six percent in social services, and seven percent in membership services.

In Wisconsin, 68 percent of the growth in services industry jobs occurred in these industry groups. That is a lower share than in all the peer-states except Indiana and Iowa. For seven of the nine peer-states, excluding Wisconsin and Indiana, over one-third of the job growth in the services industry division occurred with expansion among business services employers. Among the peer-states, Wisconsin had the smallest share of growth in business services. (The business services group includes advertising, credit reporting and collection, mail and clerical services, equipment rental and leasing, personnel supply

agencies, computer and data processing, and miscellaneous business services.) It should also be noted that in all the peer-states, except Colorado and Illinois, the business services group is smaller than health care.

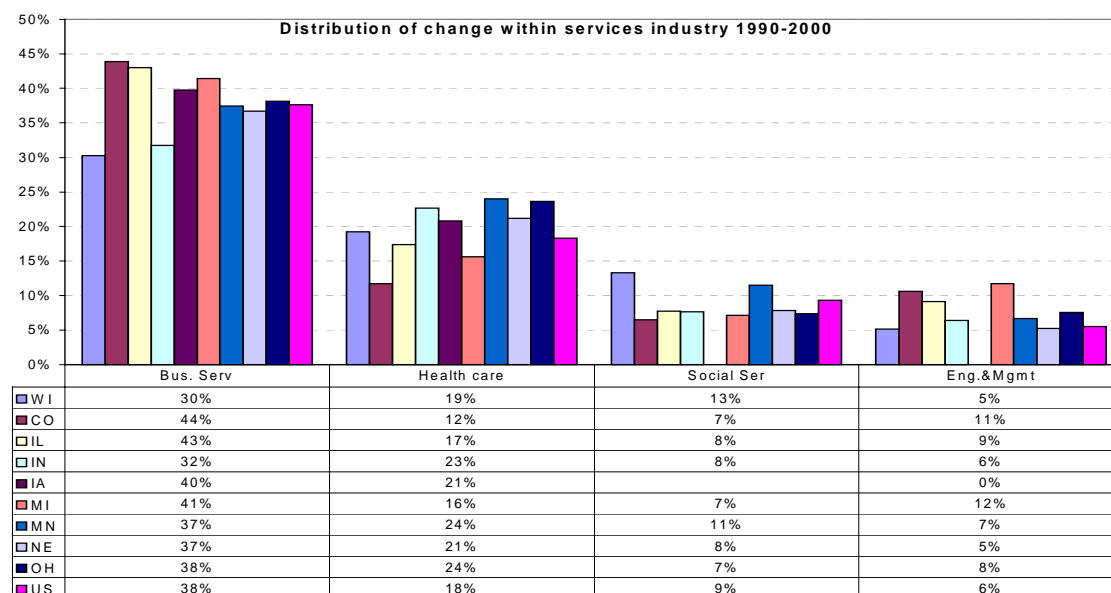


Figure 10: Distribution of Change Within Service Industry 1990-2000

Although 1990 census occupational data cannot be compared to that of 2000, there is detailed occupational employment data for all states available from the Occupational Employment Statistics (OES) survey. Because the OES survey identifies employment by specific occupation, training and education typically required is obtainable for states and metropolitan areas.

Wisconsin in 2000

We begin with a statewide perspective. Roughly 20 percent of the jobs in Wisconsin are in a professional or technical occupation. This ratio is exceeded in all of the peer-states except Indiana. Nationally, 22 percent of the jobs are in professional or technical occupations. As already mentioned, Wisconsin has a greater share of production jobs and that job growth in industries that hire professional and technical workers has lagged many of the peer-states.

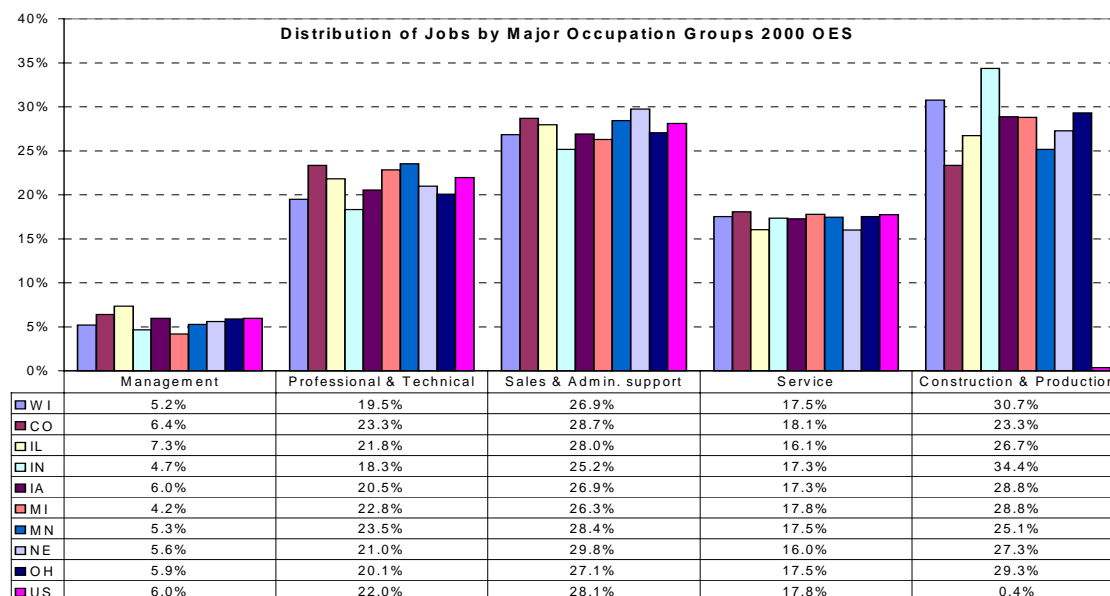


Figure 11: Distribution of Jobs by Major Occupation Groups

The occupational distribution changes slightly when only a state's metropolitan area jobs are considered. In general, a higher share of managerial, professional and technical, and sales and administrative support jobs occur in a metropolitan area rather than in the state as a whole. The reason is quite simple. Larger corporate offices, a concentration of business services, and central retail shopping create more of these jobs in metropolitan areas than in rural areas.

There is also a positive correlation in the size of a state's total metropolitan area and the ratio of jobs located there relative to the rest of the state. In Wisconsin, for every one job in non-metropolitan areas of the state there are 3.3 jobs in the metropolitan areas. Among the peer-states, this ratio exceeds only Iowa and Nebraska and is well below the national ratio of one rural job for every 5.7 metropolitan area jobs. The concentration of professional and technical jobs in metropolitan areas, however, is ever present in Wisconsin. For every single professional or technical job in the non-metropolitan areas in Wisconsin, there are four in the metropolitan areas. The national ratio for this category is 1: 6.5 jobs; the difference in ratios between Wisconsin and the nation in professional and technical occupations is greater than any other job category.

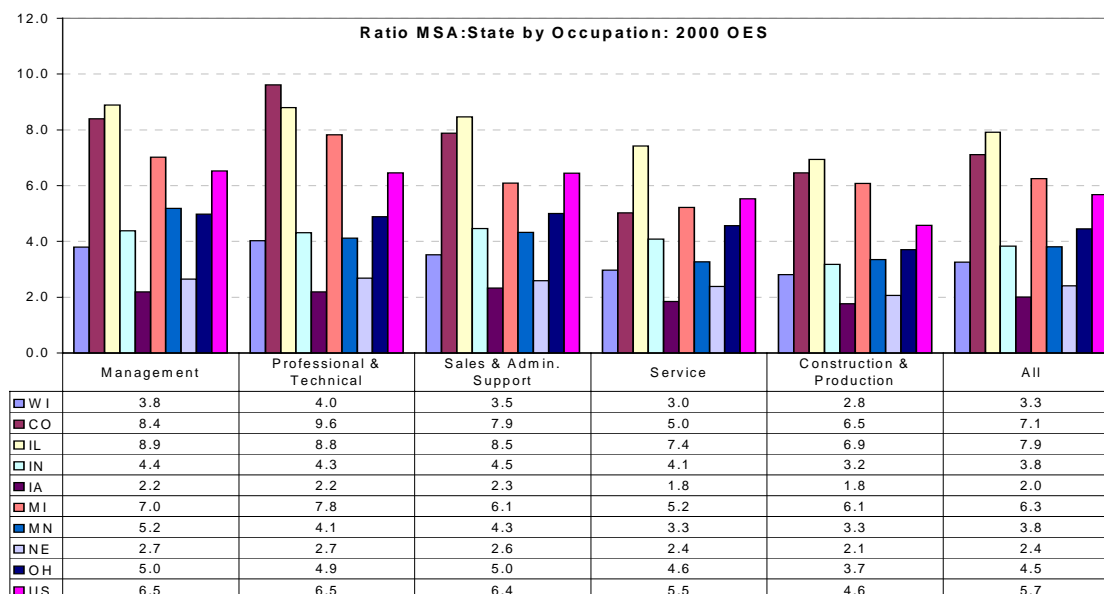


Figure 12: Peer States MSA Ratio by Occupation

Nationally, 82 percent of all jobs are with employers in metropolitan areas. In Wisconsin, only 69 percent of the jobs are in metropolitan areas. In all of the peer-states, there is a higher share of professional jobs in metropolitan than in non-metropolitan areas. In Wisconsin, 27 percent of the jobs in metropolitan areas are management; professional and technical compared with 20 percent of the jobs in non-metropolitan areas. Colorado and Minnesota have the greatest share of management, professional and technical jobs in metropolitan areas. In both Colorado and Minnesota, roughly 30 percent of jobs in the metropolitan areas are management; professional and technical jobs areas compared to the non-metropolitan share of 23 percent in Colorado and 26 percent in Minnesota.

Within the large grouping of professional and technical jobs there are more than 230 occupations. The OES survey classifies these occupations into sub-groups with related skills and several of the peer-states specialize in employment within these sub-groups. Michigan has a much greater share of architectural and engineering jobs. Minnesota has a greater share of business and financial operations jobs. Colorado exceeds all the peer-states in jobs in computer and mathematical occupations and Illinois has the greatest share of management occupations.

Conclusion: Highlights and Opinions

- In 2000, only 16 percent of all jobs in Wisconsin typically required a college degree, compared to 21 percent nationally.
- Year 2000 figures show 20 percent of Wisconsin's jobs are in professional and technical occupations. This is below the national average of 22 percent and ranks eighth lowest of the nine peer-states.
- Professional and technical occupations are found in greater density in metropolitan areas. Wisconsin shows a four-to-one ratio of metropolitan professional jobs to those in non-metropolitan counties. This ratio is lower than the national average of 6.5 jobs to one.
- In 1980, less than 20 percent of jobs, nationally, were with services industry employers, compared to 31 percent in 2000. Wisconsin's growth in services industries has been slower than national average and ranks low among the peer-states.
- Wisconsin has continued to add manufacturing jobs since the 1980's, accounting for 10.2 percent of total jobs added from 1990 to 2000; a larger share than any other peer state except Nebraska.
- 70% of manufacturing jobs are primarily in production occupations and less than 10% include professional and technical occupations, whereas 37% of the services industry jobs include professional and technical occupations.
- Wisconsin has a greater than average share of production jobs. Job growth in industries that hire professional and technical workers has lagged many of the peer-states. Consequently, Wisconsin has a lower ratio of professional or technical occupations than the national average.
- Wisconsin metropolitan areas appear to not be large and enticing enough to those who are educated. Education provides mobility and encourages college graduates to seek the most dynamic job markets. Wisconsin does not have enough jobs that require college education; hence, the state is not as attractive as others to those who are educated.
- Wisconsin females, for example, those ages 18 to 24, are more likely to enroll in some form of college level education than not enroll, more so than males of the same age. Population figures show that women in this age group and slightly older have lost relatively more population than males of the same age. Younger females of Wisconsin appear to be leaving the state looking for more satisfying career opportunities.
- There appears to be a distinct disconnection between the education levels and skills of Wisconsin's college graduates and the demands of Wisconsin's labor market. Labor market demand must be brought into alignment with the supply of college graduates available in Wisconsin or Wisconsin colleges and universities must be viewed as an export industry.

Appendix A

| <u>Any Post-Secondary Education</u> | | | <u>Some college, no degree</u> | | <u>Associate Degree</u> | | | |
|-------------------------------------|----------------------|-------|--------------------------------|----------------------|-------------------------|----|----------------------|------|
| 1 | Colorado | 63.7% | 1 | Utah | 29.1% | 1 | North Dakota | 9.4% |
| 2 | Utah | 63.1% | 2 | Alaska | 28.6% | 2 | New Hampshire | 8.7% |
| 3 | Washington | 62.2% | 3 | Idaho | 27.3% | 3 | Hawaii | 8.1% |
| 4 | Alaska | 60.5% | 4 | Oregon | 27.1% | 4 | Washington | 8.0% |
| 5 | Minnesota | 59.1% | 5 | Nevada | 27.0% | 5 | Wyoming | 8.0% |
| 6 | Oregon | 58.9% | 6 | Wyoming | 27.0% | 6 | Utah | 7.9% |
| 7 | Massachusetts | 57.5% | 7 | Washington | 26.4% | 7 | Vermont | 7.7% |
| 8 | New Hampshire | 57.3% | 8 | Arizona | 26.4% | 8 | Minnesota | 7.7% |
| 9 | District of Columbia | 57.2% | 9 | Montana | 25.6% | 9 | Wisconsin | 7.5% |
| 10 | Maryland | 57.1% | 10 | Kansas | 24.6% | 10 | Iowa | 7.4% |
| 11 | Wyoming | 56.9% | 11 | North Dakota | 24.5% | 11 | Maine | 7.3% |
| 12 | California | 56.7% | 12 | Nebraska | 24.3% | 12 | Nebraska | 7.3% |
| 13 | Arizona | 56.7% | 13 | Colorado | 24.0% | 13 | Idaho | 7.2% |
| 14 | Idaho | 56.2% | 14 | Minnesota | 24.0% | 14 | Massachusetts | 7.2% |
| 15 | Kansas | 56.2% | 15 | Oklahoma | 23.4% | 15 | Alaska | 7.2% |
| 16 | Hawaii | 56.1% | 16 | Michigan | 23.3% | 16 | New York | 7.2% |
| 17 | North Dakota | 56.0% | 17 | South Dakota | 23.0% | 17 | South Dakota | 7.1% |
| 18 | Montana | 55.9% | 18 | California | 22.9% | 18 | California | 7.1% |
| 19 | Connecticut | 55.5% | 19 | New Mexico | 22.9% | 19 | Florida | 7.0% |
| 20 | Virginia | 55.5% | 20 | Texas | 22.4% | 20 | Michigan | 7.0% |
| 21 | Nebraska | 55.3% | 21 | Missouri | 21.9% | 21 | Colorado | 7.0% |
| 22 | Vermont | 54.1% | 22 | Hawaii | 21.8% | 22 | Rhode Island | 7.0% |
| 23 | Illinois | 53.7% | 23 | Florida | 21.8% | 23 | North Carolina | 6.8% |
| 24 | New Jersey | 52.7% | 24 | Illinois | 21.6% | 24 | Arizona | 6.7% |
| 25 | New Mexico | 52.3% | 25 | Iowa | 21.4% | 25 | South Carolina | 6.7% |
| 26 | Michigan | 52.1% | | United States | 21.0% | 26 | Oregon | 6.6% |
| | United States | 51.8% | 26 | Mississippi | 20.9% | 27 | Connecticut | 6.6% |
| 27 | South Dakota | 51.7% | 27 | Wisconsin | 20.6% | 28 | Delaware | 6.6% |
| 28 | Nevada | 51.3% | 28 | Arkansas | 20.5% | | United States | 6.3% |
| 29 | New York | 51.3% | 29 | Alabama | 20.5% | 29 | Nevada | 6.2% |
| 30 | Delaware | 51.2% | 30 | North Carolina | 20.5% | 30 | Illinois | 6.1% |
| 31 | Florida | 51.1% | 31 | Georgia | 20.4% | 31 | Ohio | 5.9% |
| 32 | Texas | 50.8% | 32 | Virginia | 20.4% | 32 | New Mexico | 5.9% |
| 33 | Wisconsin | 50.5% | 33 | Maryland | 20.3% | 33 | Pennsylvania | 5.9% |
| 34 | Rhode Island | 50.2% | 34 | Louisiana | 20.2% | 34 | Montana | 5.9% |
| 35 | Iowa | 50.0% | 35 | Tennessee | 20.0% | 35 | Kansas | 5.8% |
| 36 | Georgia | 49.9% | 36 | New Hampshire | 20.0% | 36 | Indiana | 5.8% |
| 37 | North Carolina | 49.7% | 37 | Ohio | 19.9% | 37 | Mississippi | 5.7% |
| 38 | Maine | 49.2% | 38 | Indiana | 19.7% | 38 | Virginia | 5.6% |
| 39 | Oklahoma | 49.1% | 39 | Delaware | 19.5% | 39 | Oklahoma | 5.4% |
| 40 | Missouri | 48.6% | 40 | South Carolina | 19.3% | 40 | Alabama | 5.4% |
| 41 | Ohio | 46.9% | 41 | Maine | 19.0% | 41 | Maryland | 5.3% |
| 42 | South Carolina | 46.4% | 42 | Kentucky | 18.5% | 42 | New Jersey | 5.3% |
| 43 | Indiana | 44.9% | 43 | New Jersey | 17.7% | 43 | Texas | 5.2% |
| 44 | Alabama | 44.9% | 44 | Rhode Island | 17.6% | 44 | Georgia | 5.2% |
| 45 | Tennessee | 44.3% | 45 | Connecticut | 17.5% | 45 | Missouri | 5.1% |
| 46 | Pennsylvania | 43.8% | 46 | Massachusetts | 17.1% | 46 | Kentucky | 4.9% |
| 47 | Mississippi | 43.5% | 47 | Vermont | 16.9% | 47 | Tennessee | 4.7% |
| 48 | Louisiana | 42.4% | 48 | New York | 16.8% | 48 | West Virginia | 4.3% |
| 49 | Arkansas | 41.2% | 49 | West Virginia | 16.6% | 49 | Arkansas | 4.0% |
| 50 | Kentucky | 40.6% | 50 | Pennsylvania | 15.5% | 50 | Louisiana | 3.5% |
| 51 | West Virginia | 35.8% | 51 | District of Columbia | 15.4% | 51 | District of Columbia | 2.8% |

Appendix B

| <u>Bachelor's degree</u> | | | <u>Graduate or Professional Degree</u> | | | <u>Bachelor's Degree or higher</u> | | |
|---------------------------------|----------------------|-------|---|----------------------|-------|---|----------------------|-------|
| 1 | Colorado | 21.6% | 1 | District of Columbia | 21.0% | 1 | District of Columbia | 39.1% |
| 2 | Massachusetts | 19.5% | 2 | Massachusetts | 13.7% | 2 | Massachusetts | 33.2% |
| 3 | Minnesota | 19.1% | 3 | Maryland | 13.4% | 3 | Colorado | 32.7% |
| 4 | New Jersey | 18.8% | 4 | Connecticut | 13.3% | 4 | Maryland | 31.4% |
| 5 | New Hampshire | 18.7% | 5 | New York | 11.8% | 5 | Connecticut | 31.4% |
| 6 | Washington | 18.4% | 6 | Virginia | 11.6% | 6 | New Jersey | 29.8% |
| 7 | Vermont | 18.3% | 7 | Colorado | 11.1% | 7 | Virginia | 29.5% |
| 8 | Connecticut | 18.2% | 8 | Vermont | 11.1% | 8 | Vermont | 29.4% |
| 9 | District of Columbia | 18.1% | 9 | New Jersey | 11.0% | 9 | New Hampshire | 28.7% |
| 10 | Maryland | 18.0% | 10 | New Hampshire | 10.0% | 10 | Washington | 27.7% |
| 11 | Virginia | 17.9% | 11 | New Mexico | 9.8% | 11 | Minnesota | 27.4% |
| 12 | Utah | 17.9% | 12 | Rhode Island | 9.7% | 12 | New York | 27.4% |
| 13 | Hawaii | 17.8% | 13 | Illinois | 9.5% | 13 | California | 26.6% |
| 14 | Montana | 17.2% | 14 | California | 9.5% | 14 | Hawaii | 26.2% |
| 15 | California | 17.1% | 15 | Delaware | 9.4% | 15 | Utah | 26.1% |
| 16 | Kansas | 17.1% | 16 | Washington | 9.3% | 16 | Illinois | 26.1% |
| 17 | North Dakota | 16.5% | | United States | 8.9% | 17 | Kansas | 25.8% |
| 18 | Illinois | 16.5% | 17 | Kansas | 8.7% | 18 | Rhode Island | 25.6% |
| 19 | Nebraska | 16.5% | 18 | Oregon | 8.7% | 19 | Oregon | 25.1% |
| 20 | Oregon | 16.4% | 19 | Alaska | 8.6% | 20 | Delaware | 25.0% |
| 21 | Alaska | 16.1% | 20 | Hawaii | 8.4% | 21 | Alaska | 24.7% |
| 22 | Georgia | 16.0% | 21 | Pennsylvania | 8.4% | | United States | 24.4% |
| 23 | Rhode Island | 15.9% | 22 | Arizona | 8.4% | 22 | Montana | 24.4% |
| 24 | Delaware | 15.6% | 23 | Minnesota | 8.3% | 23 | Georgia | 24.3% |
| 25 | Texas | 15.6% | 24 | Georgia | 8.3% | 24 | Nebraska | 23.7% |
| 26 | New York | 15.6% | 25 | Utah | 8.3% | 25 | Arizona | 23.5% |
| | United States | 15.5% | 26 | Michigan | 8.1% | 26 | New Mexico | 23.5% |
| 27 | South Dakota | 15.5% | 27 | Florida | 8.1% | 27 | Texas | 23.2% |
| 28 | North Carolina | 15.3% | 28 | Maine | 7.9% | 28 | Maine | 22.9% |
| 29 | Wisconsin | 15.3% | 29 | Texas | 7.6% | 29 | North Carolina | 22.5% |
| 30 | Arizona | 15.2% | 30 | Missouri | 7.6% | 30 | Wisconsin | 22.4% |
| 31 | Maine | 14.9% | 31 | Ohio | 7.4% | 31 | Pennsylvania | 22.4% |
| 32 | Wyoming | 14.9% | 32 | Nebraska | 7.3% | 32 | Florida | 22.3% |
| 33 | Idaho | 14.8% | 33 | Indiana | 7.2% | 33 | North Dakota | 22.0% |
| 34 | Iowa | 14.7% | 34 | Montana | 7.2% | 34 | Wyoming | 21.9% |
| 35 | Florida | 14.3% | 35 | North Carolina | 7.2% | 35 | Michigan | 21.8% |
| 36 | Missouri | 14.0% | 36 | Wisconsin | 7.2% | 36 | Idaho | 21.7% |
| 37 | Pennsylvania | 14.0% | 37 | Wyoming | 7.0% | 37 | Missouri | 21.6% |
| 38 | Ohio | 13.7% | 38 | Kentucky | 6.9% | 38 | South Dakota | 21.5% |
| 39 | Michigan | 13.7% | 39 | South Carolina | 6.9% | 39 | Iowa | 21.2% |
| 40 | New Mexico | 13.6% | 40 | Alabama | 6.9% | 40 | Ohio | 21.1% |
| 41 | South Carolina | 13.5% | 41 | Idaho | 6.8% | 41 | South Carolina | 20.4% |
| 42 | Oklahoma | 13.5% | 42 | Oklahoma | 6.8% | 42 | Oklahoma | 20.3% |
| 43 | Tennessee | 12.8% | 43 | Tennessee | 6.8% | 43 | Tennessee | 19.6% |
| 44 | Louisiana | 12.2% | 44 | Iowa | 6.5% | 44 | Indiana | 19.4% |
| 45 | Indiana | 12.2% | 45 | Louisiana | 6.5% | 45 | Alabama | 19.0% |
| 46 | Alabama | 12.2% | 46 | Nevada | 6.1% | 46 | Louisiana | 18.7% |
| 47 | Nevada | 12.1% | 47 | South Dakota | 6.0% | 47 | Nevada | 18.2% |
| 48 | Mississippi | 11.1% | 48 | West Virginia | 5.9% | 48 | Kentucky | 17.1% |
| 49 | Arkansas | 11.0% | 49 | Mississippi | 5.8% | 49 | Mississippi | 16.9% |
| 50 | Kentucky | 10.3% | 50 | Arkansas | 5.7% | 50 | Arkansas | 16.7% |
| 51 | West Virginia | 8.9% | 51 | North Dakota | 5.5% | 51 | West Virginia | 14.8% |